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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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10/665,058

09/16/2003

Robert Lee Read

5492

7590

01/25/2005

Robert L. Read  
1709 Norris Dr.  
Austin, TX 78704

EXAMINER

AMARI, ALESSANDRO V

ART UNIT

PAPER NUMBER

2872

DATE MAILED: 01/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

*AK*

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 10/665,058             | READ, ROBERT LEE    |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | Alessandro V. Amari    | 2872                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                | Paper No(s)/Mail Date. ____   |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>9/16/2003</u> .   | 6) <input type="checkbox"/> Other: ____                                     |

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The information disclosure statement filed 16 September 2003 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because the non patent literature document, Timinger et al "Faceted Concentrator Optimized for Homogeneous Radiation" has not been provided by the applicant. It has been placed in the application file, but the information referred to therein has not been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609 ¶ C(1).

### ***Claim Objections***

2. Claim 12 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim 1 recites "an optical apparatus", however, claim 12 is directed to an apparatus that is "capable of reflecting higher than optical frequency radiation". Therefore, the subject matter of claim 12 does not further limit the apparatus of claim 1.

3. Claims 7-9 and 18-20 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative

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only. See MPEP § 608.01(n). Accordingly, the claims 7-9 and 18-20 have not been further treated on the merits.

4. Regarding claim 3, the phrase "can be performed" is ambiguous because it is unclear whether the limitations following the phrase are part of the claimed invention. Claim 11 inherits the same issue.

5. Regarding claims 10 and 11, the phrases "may be constructed" is ambiguous because it is unclear whether the limitations following the phrase are part of the claimed invention.

6. Regarding claim 3, line 2, the phrase "the outer side of the surface" is ambiguous since it is unclear which surface is being referred to since the claim previously recited "surfaces". Claim 11 inherits the same issue.

7. Regarding claim 3, line 1, the term "trasparent" is misspelled. Appropriate correction is required. Claim 11 inherits the same issue.

### ***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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9. Claims 1, 5, 13 and 16 are rejected under 35 U.S.C. 102(e) as being anticipated by Li US 6,634,759.

In regard to claims 1 and 13, Li teaches (see Figure 5) an optical apparatus for magnification comprising an objective reflecting surface in the shape a truncated half paraboloid (20), an ocular reflecting surface (30) of the same shape but different size, a means of positioning said objective reflecting surface and said ocular reflecting surface such that their axes are substantially collinear but point in opposite directions, their focal points are at substantially the same shared point (36), they are on opposite sides of the shared focal point and the planes formed between the optical axis and the parabolic edge of each surface are in the same plane in space whereby a virtual image may be magnified or demagnified as described in column 3, lines 59-67, column 4, lines 1-33, column 5, lines 40-67 and column 6, lines 1-32.

Regarding claims 5 and 16, Li teaches that the surfaces are shiny mirrors held in place by their non shiny sides as described in column 5, lines 40-67 and column 6, lines 1-32.

10. Claims 1, 5, 13 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Wolter US 2,759,106.

In regard to claims 1 and 13, Wolter teaches (see Figure 2a) an optical apparatus for magnification comprising an objective reflecting surface in the shape a truncated half paraboloid ( $R_{\text{cond}}$ ), an ocular reflecting surface ( $R_{\text{obj}}$ ) of the same shape but different size, a means of positioning said objective reflecting surface and said ocular reflecting surface such that their axes are substantially collinear but point in opposite directions,

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their focal points are at substantially the same shared point (F), they are on opposite sides of the shared focal point and the planes formed between the optical axis and the parabolic edge of each surface are in the same plane in space whereby a virtual image may be magnified or demagnified as described in column 2, lines 5-32.

Regarding claims 5 and 16, Wolter teaches that the surfaces are shiny mirrors held in place by their non shiny sides as described in column 2, lines 5-64.

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 2, 3, 4, 6, 14, 15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li US 6,634,759 in view of Ortabasi US 6,252,155.

Regarding claims 2, 3, 6, 14, 15 and 17, Li teaches the invention as set forth above and regarding claim 4, that the surfaces are reflecting as described in column 5, lines 40-67 and column 6, lines 1-32 but does not teach regarding claims 2 and 14, wherein the means of positioning the two surfaces is a solid material that is transparent and fills the inner space between the two surfaces, whereby magnification can be performed with a single solid object or regarding claims 3 and 15, that the surfaces are reflecting because the transparent solid material has a higher index of refraction than the outer side of the surface, whereby magnification can be performed with a single solid object with no losses due to reflection from metal or losses from internal air-

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material interfaces or regarding claims 6 and 17, wherein the apparatus is repeated many times in a planar array such that the optical axis of each apparatus is parallel, whereby optical energy can be captured by a device which is thin and light relative to its collecting area.

Regarding claims 2 and 14, Ortabasi teaches that the means of positioning the two surfaces is a solid material that is transparent and fills the inner space between the two surfaces, whereby magnification can be performed with a single solid object as described in column 6, lines 14-67.

Regarding claims 3 and 15, Ortabasi teaches that the surfaces are reflecting because the transparent solid material has a higher index of refraction than the outer side of the surface, whereby magnification can be performed with a single solid object with no losses due to reflection from metal or losses from internal air-material interfaces as described in column 6, lines 14-67.

Regarding claims 6 and 17, Ortabasi teaches that the apparatus is repeated many times in a planar array such that the optical axis of each apparatus is parallel, whereby optical energy can be captured by a device which is thin and light relative to its collecting area as shown in Figures 1, 2 and 5.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the materials and configuration of Ortabasi in the apparatus of Li in order to provide improved off angle performance, high stiffness, better thermal management and high stowage power density with nesting capability.

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13. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Li US 6,634,759 in view of Hough et al US 6,123,436.

Regarding claim 10, Li teaches the invention as set forth above but does not teach the apparatus with light baffles whereby a reflecting telescope with an unobstructed aperture of semicircular shape may be constructed.

Regarding claim 10, Hough et al teaches (see Figure 2) the apparatus with light baffles (2a) whereby a reflecting telescope with an unobstructed aperture of semicircular shape may be constructed as described in column 3, lines 37-52.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the baffles of Hough et al in the apparatus of Li in order to eliminate unwanted signals.

14. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Li US 6,634,759 in view of Ortabasi US 6,252,155 and further in view of Hough et al US 6,123,436.

Regarding claim 11, Li in view of Ortabasi teaches the invention as set forth above but does not teach the apparatus with light baffles whereby a reflecting telescope with an unobstructed aperture of semicircular shape may be constructed.

Regarding claim 11, Hough et al teaches (see Figure 2) the apparatus with light baffles (2a) whereby a reflecting telescope with an unobstructed aperture of semicircular shape may be constructed as described in column 3, lines 37-52.



It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the baffles of Hough et al in the apparatus of Li in view of Ortabasi in order to eliminate unwanted signals.

15. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wolter US 2,759,106 in view of Hough et al US 6,123,436.

Regarding claim 12, Wolter teaches the invention as set forth above and teaches reflecting surfaces capable of reflecting higher-than optical frequency radiation as described in column 3, lines 72-75 and column 4, lines 1-26.

However, regarding claim 12, Wolter does not teach baffles limiting radiation to those surfaces that can serve to magnify or demagnify very high frequency radiation.

Regarding claim 12, Hough et al teaches (see Figure 2) the apparatus with light baffles (2a) whereby a reflecting telescope with an unobstructed aperture of semicircular shape may be constructed as described in column 3, lines 37-52.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the baffles of Hough et al in the apparatus of Wolter in order to eliminate unwanted signals.

### ***Conclusion***

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hunter US 4,357,075 teaches an optical apparatus comprising paraboloid surfaces with their axes substantially collinear and with a shared focal point as shown in Figure 2.


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17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alessandro V. Amari whose telephone number is (571) 272-2306. The examiner can normally be reached on Monday-Friday 8:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on (571) 272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ava *dm*  
19 January 2005

  
MARK A. ROBINSON  
PRIMARY EXAMINER